

Claims

1. A method for supporting multiple packet data service connections comprising:

5 generating, by a mobile station (MS), a message that requests a service request operation for a plurality of packet data connections; and

transmitting the message to a base station (BS) in order to request the service request operation for the plurality of connections, wherein each of the plurality of connections is a connection between the MS and a PDSN, wherein each of the plurality of connections is individually identified using a service reference identifier value in a message field, and wherein the service request operation comprises an operation from the group of operations consisting of connection origination, connection reactivation, and dormant mode handoff.

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2. The method of claim 1, wherein the message includes a message extension that includes a record for each service reference identifier value indicated in the message extension and wherein each record indicates one of the service reference identifier values.

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3. The method of claim 2, wherein generating the message comprises further indicating in at least one of the records a service option value that corresponds to the service reference identifier value indicated in that record.

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4. The method of claim 2, wherein generating the message comprises further indicating in at least one of the records that a service option value indicated outside of that record corresponds to the service reference identifier value indicated in that record.

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5. The method of claim 2, wherein each service reference identifier value after a first service reference identifier value is indicated in the message extension.
- 5 6. The method of claim 2, wherein the message extension indicates how many service reference identifier values are indicated in the message extension.
- 10 7. The method of claim 1, wherein the message further comprises a service option indicator that indicates a service option value to correspond to at least one of the plurality of connections individually identified.
- 15 8. The method of claim 7, wherein the message further comprises at least one additional service option indicator that indicates a service option value to correspond to one of the plurality of connections individually identified.
- 20 9. The method of claim 8, wherein the message further comprises an indication of whether an at least one additional service option indicator is included in the message.
10. The method of claim 1, wherein the message comprises a CDMA Origination message.
- 25 11. The method of claim 1, wherein the message comprises a CDMA Enhanced Origination message.
12. The method of claim 1, wherein the message comprises a CDMA Reconnect message.

13. A method for supporting multiple packet data service connections comprising:

generating, by a mobile station (MS), a message that requests a service request operation for a plurality of packet data connections; and

5 transmitting the message to a base station (BS) in order to request the service request operation for the plurality of connections, wherein each of the plurality of connections is a connection between the MS and a PDSN, wherein each of the plurality of connections is individually identified using a bit value in a bitmap, and wherein the service request operation
10 comprises an operation from the group of operations consisting of connection origination, connection reactivation, and dormant mode handoff.

14. The method of claim 13, wherein the message further comprises a
15 service option indicator that indicates a service option value to correspond to at least one of the plurality of connections individually identified.

15. The method of claim 14, wherein the message further comprises at least one additional service option indicator that indicates a service option
20 value to correspond to one of the plurality of connections individually identified.

16. A method for supporting multiple packet data service connections comprising:

receiving, by a base station (BS) from a mobile station (MS), a message that requests a service request operation for a plurality of packet

5 data connections; and

processing the message in order to facilitate the service request operation for the plurality of connections, wherein each of the plurality of connections is a connection between the MS and a PDSN, wherein each of the plurality of connections is individually identified using a service

10 reference identifier value in a message field, and wherein the service request operation comprises an operation from the group of operations consisting of connection origination, connection reactivation, and dormant mode handoff.

15 17. The method of claim 16, wherein the message includes a message extension that includes a record for each service reference identifier value indicated in the message extension and wherein each record indicates one of the service reference identifier values.

20 18. The method of claim 17, wherein at least one of the records further indicates a service option value that corresponds to the service reference identifier value indicated in that record.

25 19. The method of claim 17, wherein at least one of the records further indicates that a service option value indicated outside of that record corresponds to the service reference identifier value indicated in that record.

30 20. The method of claim 17, wherein each service reference identifier value after a first service reference identifier value is indicated in the message extension.

21. The method of claim 17, wherein the message extension indicates how many service reference identifier values are indicated in the message extension.

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22. The method of claim 16, wherein the message further comprises a service option indicator that indicates a service option value to correspond to at least one of the plurality of connections individually identified.

10 23. The method of claim 22, wherein the message further comprises at least one additional service option indicator that indicates a service option value to correspond to one of the plurality of connections individually identified.

15 24. The method of claim 23, wherein the message further comprises an indication of whether an at least one additional service option indicator is included in the message.

25. A method for supporting multiple packet data service connections comprising:

receiving, by a base station (BS) from a mobile station (MS), a message that requests a service request operation for a plurality of packet
5 data connections; and

processing the message in order to facilitate the service request operation for the plurality of connections, wherein each of the plurality of connections is a connection between the MS and a PDSN, wherein each of the plurality of connections is individually identified using a bit value in a
10 bitmap, and wherein the service request operation comprises an operation from the group of operations consisting of connection origination, connection reactivation, and dormant mode handoff.

26. The method of claim 25, wherein the message further comprises a
15 service option indicator that indicates a service option value to correspond to at least one of the plurality of connections individually identified.

27. The method of claim 26, wherein the message further comprises at least one additional service option indicator that indicates a service option
20 value to correspond to one of the plurality of connections individually identified.

28. A mobile station (MS) comprising:

- a transmitter; and
- a processor, communicatively coupled to the transmitter, adapted to generate a message that requests a service request operation for a plurality of packet data connections and adapted to instruct the transmitter to transmit the message to a base station (BS) in order to request the service request operation for the plurality of connections, wherein each of the plurality of connections is a connection between the MS and a PDSN, wherein each of the plurality of connections is individually identified using a service reference identifier value in a message field, and wherein the service request operation comprises an operation from the group of operations consisting of connection origination, connection reactivation, and dormant mode handoff.

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29. A mobile station (MS) comprising:
 - a transmitter; and
 - a processor, communicatively coupled to the transmitter, adapted to generate a message that requests a service request operation for a plurality of packet data connections and adapted to instruct the transmitter to transmit the message to a base station (BS) in order to request the service request operation for the plurality of connections, wherein each of the plurality of connections is a connection between the MS and a PDSN, wherein each of the plurality of connections is individually identified using a bit value in a bitmap, and wherein the service request operation comprises an operation from the group of operations consisting of connection origination, connection reactivation, and dormant mode handoff.

30. A base station (BS) comprising:
 - a receiver; and
 - a processor, communicatively coupled to the receiver, adapted to receive via the receiver a message from a mobile station (MS) that
- 5 requests a service request operation for a plurality of packet data connections and adapted to process the message in order to facilitate the service request operation for the plurality of connections, wherein each of the plurality of connections is a connection between the MS and a PDSN, wherein each of the plurality of connections is individually identified using
- 10 a service reference identifier value in a message field, and wherein the service request operation comprises an operation from the group of operations consisting of connection origination, connection reactivation, and dormant mode handoff.

31. A base station (BS) comprising:
 - a receiver; and
 - a processor, communicatively coupled to the receiver, adapted to receive via the receiver a message from a mobile station (MS) that
- 5 requests a service request operation for a plurality of packet data connections and adapted to process the message in order to facilitate the service request operation for the plurality of connections, wherein each of the plurality of connections is a connection between the MS and a PDSN, wherein each of the plurality of connections is individually identified using
- 10 a bit value in a bitmap, and wherein the service request operation comprises an operation from the group of operations consisting of connection origination, connection reactivation, and dormant mode handoff.

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